

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Please amend claims 38, 40, 41, 44, 45, 49-51. Please add new claim 52.

Claims 2, 10, 14, 20, 21, and 46 were previously cancelled.

1. (previously amended) An intravascular balloon catheter comprising:
a catheter body having a proximal end, a distal end, a guidewire lumen, and an
axially slit passage along at least a portion thereof; and
a first balloon structure comprising a balloon and a passage slidably receivable
over the catheter body and an inflation tube removably receivable in the axially slit passage.

Claim 2 (cancelled).

3. (original) An intravascular balloon catheter as in claim 1, wherein a
perimeter of the catheter body has a circular, oblong, or elliptical shape.

4. (original) An intravascular balloon catheter as in claim 1, wherein the
distal end of the catheter body is axially tapered for a length of at least 3 mm.

5. (original) An intravascular balloon catheter as in claim 1, further
comprising an atraumatic tip at the distal end of the catheter body.

6. (original) An intravascular balloon catheter as in claim 1, wherein the
catheter body is formed from a polymer material, a composite material, a braided material, or a
metal material.

7. (original) An intravascular balloon catheter as in claim 1, wherein the
catheter body comprises multiple tubular members coupled to one another.

8. (previously amended) An intravascular balloon catheter as in claim 1, wherein the inflation tube extends proximally from the balloon when the balloon is disposed near the distal end of the catheter body.

9. (original) An intravascular balloon catheter as in claim 8, wherein the inflation tube has sufficient column strength to advance the balloon structure over the catheter body.

Claim 10 (cancelled).

NE 11. (original) An intravascular balloon catheter as in claim 10, wherein the groove has a length in the range from 10 cm to 150 cm and an opening in the range from 0.001 inches to 0.014 inches.

12. (original) An intravascular balloon catheter as in claim 8, wherein the inflation tube has a length in the range from 10 cm to 150 cm.

NE 13. (original) An intravascular balloon catheter as in claim 1, wherein the catheter body has an inflation lumen which mates with an inflation port on the balloon structure wherein the balloon structure is disposed near the distal end of the catheter body.

Claim 14 (cancelled).

15. (original) An intravascular balloon catheter as in claim 1, wherein the catheter body is substantially free from structure at the proximal end which would interfere with passage of the balloon structure over the proximal end of the catheter body.

16. (original) An intravascular balloon catheter as in claim 1, further comprising an expandable vascular prosthesis disposed over the first balloon structure.

17. (original) An intravascular balloon catheter system comprising a balloon catheter as in claim 1, further comprising a second balloon structure having a passage which is slidably receivable over the catheter body.

18. (original) An intravascular balloon catheter system as in claim 17, further comprising an expandable vascular prosthesis disposed over the second balloon structure.

19. (original) An intravascular balloon catheter as in claim 1, wherein the catheter body is axially slit over at least a portion of the length of the guidewire lumen.

Claims 20-21 (cancelled).

22. (original) An intravascular balloon catheter as in claim 1, wherein the catheter body has a length in the range from 50 cm to 200 cm, and outer diameter in the range from 1 F to 10 F, and a guidewire lumen diameter in the range from 0.2 mm to 2 mm.

23. (original) An intravascular balloon catheter as in claim 1, wherein the balloon structure further comprises an inner sleeve having an inflatable balloon disposed over an outer surface of the inner sleeve, wherein the passage is formed axially in the inner sleeve.

24. (original) An intravascular balloon catheter as in claim 23, wherein the inner sleeve has a length in the range from 3 cm to 50 cm and the inflatable balloon has a length in the range from 1 cm to 5 cm.

25. (original) An intravascular balloon catheter as in claim 23, wherein at least a portion of the inner sleeve is slidably receivable over the catheter body.

26. (original) An intravascular balloon catheter as in claim 1, further comprising a deployable embolic capture element on the catheter body.

27. (original) An intravascular balloon catheter as in claim 26, wherein the deployable embolic capture element is located within 20 cm of the distal end of the catheter body.

28. (original) An intravascular balloon catheter as in claim 1, further comprising a deployable embolic capture element on the first balloon structure.

29. (original) An intravascular balloon catheter as in claim 1, further comprising a second balloon on the catheter body.

30. (original) An intravascular balloon catheter as in claim 29, further comprising an expandable vascular prostheses disposed over the second balloon.

31. (original) An intravascular balloon catheter as in claim 1, further comprising a self-expanding vascular prosthesis on the catheter body.

32. (original) An intravascular balloon catheter as in claim 31, wherein the vascular prosthesis is distal the balloon structure in an unexpanded state.

33. (original) An intravascular balloon catheter as in claim 31, wherein the vascular prosthesis is at least partially under the balloon structure in an unexpanded state.

34. (original) An intravascular balloon catheter as in claim 1, further comprising an atherectomy element coupled to the distal end of the catheter body.

35. (original) An intravascular balloon catheter as in claim 1, further comprising at least one pressure sensor coupled to the distal end of the catheter body.

36. (original) An intravascular balloon catheter as in claim 1, further comprising at least one infusion port at the distal end of the catheter body.

11/ 37. (original) An intravascular balloon catheter as in claim 1, further comprising a second catheter body having a passage which is slidably receivable over the catheter body. ?

38. (currently amended) A method for balloon exchange over a catheter body having at least a guidewire lumen and an axially slit passage along at least a portion of a length of the catheter body, said method comprising:

retracting a first inflation tube from or through the axially slit passage to withdraw a first balloon structure over the catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood vessel~~ body lumen; and

advancing a second inflation tube into or through the axially slit passage to introduce a second balloon structure over the catheter body in a distal direction, wherein said catheter body remains in place over the guidewire in the guidewire lumen of the catheter body in a ~~blood vessel~~ body lumen.

39. (original) A method as in claim 38, wherein the balloon structure that is introduced over the catheter body is not the same as the balloon structure that is withdrawn over the catheter body.

40. (currently amended) A method as in claim 38, further comprising expanding the first and second balloon structures which have been introduced to the ~~blood vessel~~ body lumen.

41. (currently amended) A method as in claim 40, wherein at least one of the balloon structures are carrying a vascular prosthesis which is deployed into the ~~blood vessel~~ body lumen by balloon expansion.

42. (original) A method as in claim 40, wherein expanding the balloon structure comprises introducing an inflation medium through an inflation tube connected to the balloon structure.

43. (original) A method as in claim 40, wherein expanding the balloon structure comprises introducing an inflation medium through an inflation lumen in the catheter body.

44. (currently amended) A method for balloon withdrawal over a catheter body having at least a guidewire lumen and an axially slit passage, said method comprising:
retracting an inflation tube from or through the axially slit passage to withdraw a first balloon structure over the catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood vessel~~ body lumen.

45. (currently amended) A method for balloon introduction over a catheter body having at least a guidewire lumen and an axially slit passage, said method comprising:
retracting an inflation tube from or through the axially slit passage to withdraw a first balloon structure over the catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood vessel~~ body lumen.

Claim 46 (cancelled).

47. (original) A kit as in claim 46, further comprising a second balloon.

48. (previously added) An intravascular balloon catheter comprising:
a catheter body having a proximal end, a distal end, a guidewire lumen, and an axially slit passage therebetween; and

a first balloon structure comprising a balloon and a deployment shaft, wherein the balloon has a passage which is slidably receivable over the catheter body and the deployment shaft is removably receivable in the axially slit passage of the catheter body.

49. (currently amended) A method for balloon exchange over a catheter body having at least a guidewire lumen and an axially slit passage, said method comprising:

retracting a deployment shaft from or through the axially slit passage to withdraw withdrawing a first balloon structure over a catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood-vessel~~ body lumen; and

advancing a deployment shaft into or through the axially slit passage to introduce introducing a second balloon structure over the catheter body in a distal direction, wherein said catheter body remains in place over the guidewire in the guidewire lumen of the catheter body in a ~~blood-vessel~~ body lumen.

50. (currently amended) A method for balloon withdrawal over a catheter body having at least a guidewire lumen and an axially slit passage, said method comprising:

retracting a deployment shaft from or through the axially slit passage to withdraw withdrawing a first balloon structure over a catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood-vessel~~ body lumen.

51. (currently amended) A method for balloon introduction over a catheter body having at least a guidewire lumen and an axially slit passage, said method comprising:

retracting a deployment shaft from or through the axially slit passage to withdraw introducing a first balloon structure over a catheter body in a proximal direction, wherein said catheter body remains in place over a guidewire in the guidewire lumen of the catheter body in a ~~blood-vessel~~ body lumen.

52. (New) A kit comprising:

an intravascular balloon catheter comprising a catheter body having a proximal end, a distal end, a guidewire lumen, and an axially slit passage along at least a portion thereof; and a first balloon structure comprising a balloon and a passage slidably receivable over the catheter body and an inflation tube removably receivable in the axially slit passage; and

instructions for use setting forth a method as in claim 38.